

REMARKS

Claims 21-25 have been added. Therefore claims 1-25 are now pending in the application.

Section 103(a) Rejection:

The Examiner rejected claims 1-20 under 35 U.S.C. § 103(a) as being unpatentable over Timpanaro-Perrotta (U.S. Patent 6,880,051, hereinafter "Tim") in view of Coombs (U.S. Publication 2003/0177149, hereinafter "Coombs").

Claim 1 recites, in part, "a restore application configured to restore a set of files from backup storage to primary storage, and a **file server** configured to, during said restore, determine that one or more blocks of data of a file needed by an application have not been restored and **direct the restore application** to restore the determined one or more blocks in response to the determination that the one or more blocks of data have not been restored."

In rejecting claim 1, the Examiner acknowledges that "Tim does not particularly teach a file server configured to determine that one or more blocks of data of a file in the set of files needed by the application have not been restored, and direct the restore application to restore the determined one or more blocks." The Examiner then asserts that Coombs "discloses the missing elements that are known to be required in Tim's system in order to arrive at the Applicant current invention", and cites paragraphs [0014] and [0057] of Coombs in support. Applicant respectfully disagrees with the Examiner's assertion.

The cited art does not teach or suggest a file server determining, during a restore operation, that one or more blocks of data of a file needed by an application have not been restored, nor does the cited art teach or suggest a file server directing a

restore application to restore the one or more blocks. Paragraph [0014] of Coombs states:

... until all the data to be restored is copied to the second storage device, the following steps may be repeated. The portion of the data to be restored remaining to be copied is determined. A parent backup to the current backup from the dependency data structure is determined and the parent backup redefines the current backup. Where the data stored to the current backup comprises any of the portion of the data to be restored remaining to be copied, the any of the portion of data is copied to the second storage device from the current backup.

However, paragraph [0014] of Coombs does not mention or suggest a file server, much less a file server directing a restore application to restore blocks of a file. Paragraph [0057] describes restoration from an incremental backup by a restore mechanism (“the restore procedure restores each file identified to be restored that is present in the particular incremental backup”, paragraph [0057], lines 6 -9), but does not teach or suggest that the restore mechanism is directed by a file server to restore file data blocks, as recited in claim 1. Applicant respectfully submits that neither Tim nor Coombs, taken singly or in combination, teach a file server interacting with a restore application as recited in claim 1. The Examiner is no doubt aware that to establish a *prima facie* obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974), MPEP 2143.03.

Further with respect to claim 1, Applicant respectfully submits that neither Tim nor Coombs teaches block-level restoration of file data, whereas claim 1 clearly recites “directing the restore application to restore the determined **one or more blocks**” of a file, and “wherein the restored **one or more blocks** of data are accessible by the application while said restore is in progress”. In contrast, in both Tim and Coombs, restoration appears to be performed at the granularity of files, rather than at the granularity individual data blocks of files; e.g., neither Tim nor Coombs teaches restoring individual data blocks of a file in response to an application’s need, or providing access to the restored individual data blocks to the application.

Independent claims 8, 9 and 15 also recite limitations using language similar to that of claim 1, and are therefore believed to patentably distinguish over Tim and Coombs for similar reasons.

With respect to claim 2, the Examiner asserts that Tim and Coombs teach “the further limitation of generating a map correlating the destination locations on the primary storage to source locations on the backup storage”, recites portions of column 3 of Tim and paragraphs [0037], [0039] and [0040] of Coombs in support. Applicant respectfully suggests that the Examiner is mistaken in asserting that the cited teachings of Tim and Coombs make the features of claim 2 obvious. Claim 2 recites a restore application configured to “prior to said restore, generate a map correlating destination locations on the primary storage”, wherein “the file server is configured to access the map to determine if the one or more blocks have been restored”. Neither Tim nor Coombs teaches the generation of a **block-level map** correlating destination (primary storage) and source (backup storage) locations prior to a restore operation, as recited in claim 2. The portion of Tim cited by the Examiner teaches a “backup priority table” used to “determine the order in which files in the file system are backed up” and restored (column 3, lines 30 – 55), which is very different from the block-level map of claim 2. Paragraphs [0037] – [0040] of Tim describe a backup process that utilizes an index (“signals representative of attributes of the data comprising the backup where the attributes include a list of all files and their respective file attributes”); however, this backup process also does not teach or suggest the block-level map of claim 2.

Further with respect to claim 2, the Examiner also suggests that Tim and/or Coombs teach a “file allocation table or directory table which is known in the memory storage art for storing mapping data correlating the originated/destination location of data amongst the primary and secondary storage”. Applicant respectfully disagrees with this suggestion for a number of reasons. Firstly, “file allocation tables” are **not** known in the “memory storage art” for “storing mapping data correlating the originated/destination location amongst primary and secondary storage”; rather, file allocation tables are typically used to map files to disk sectors for a given file system. Second, applicant can

find no such teaching in Tim and/or Coombs, taken either separately or in combination. Tim does teach that a "file allocation table" and other system configuration files "must be restored before anything else can run" and therefore "have the highest backup priority and are restored first" (Col. 3, lines 29 – 33), but this has nothing to do with the type of map recited in claim 2. Claim 2 is therefore also believed to patentably distinguish over the art cited by the Examiner. Claims 10 and 16 recite limitations similar to those of claim 2, and are therefore also believed to be in condition for allowance.

Applicant also asserts that numerous ones of the remaining dependent claims recite further distinctions over the cited art. However, since the independent claims have been shown to be patentably distinct, a further discussion of the dependent claims is not necessary at this time.

CONCLUSION

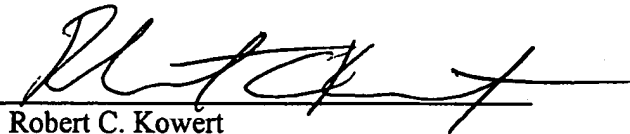
Applicant submits the application is in condition for allowance, and notice to that effect is respectfully requested.

If any extension of time (under 37 C.F.R. § 1.136) is necessary to prevent the above referenced application from becoming abandoned, Applicant hereby petitions for such extension. If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5760-12300/RCK.

Also enclosed herewith are the following items:

- ☒ Return Receipt Postcard
- ☐ Petition for Extension of Time
- ☐ Notice of Change of Address
- ☐ Other:

Respectfully submitted,



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